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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TSAI, CAROL S W

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 12/05/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/408,918

Applicant(s)

KROMENAKER ET AL.

Examiner

Carol S Tsai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) 1-11 and 15-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

At page 9, line 16, "309" should read - - 308 - -.

Appropriate correction is required.

Claim Objections

2. Claim 16 is objected to because of the following informalities:

In claim 16, line 7, "an processor" should read - - a processor - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, the alternative expressions, such as "an adjusted sample", "a control", "a counter", "a current mode" and a current time", are uncertain and ambiguous. See MPEP 2173.05(h).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1-8, 11, 16, 17, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. 6,167,538 to Neufeld et al.

With respect to claim 1, 5, and 6, Neufeld et al. disclose a method, comprising: registering a performance monitoring driver (driver A 308 and drive B 318 shown on Fig. 3) as a private driver with a real time operating system (RTOS) of a processor (microprocessor 616 shown on Fig. 6) in which the performance monitoring driver is coupled to a performance monitoring unit (PMU) (performance monitor (#1) 310 and performance monitor (#2) 320 shown on Fig. 3) (see Fig. 3; col. 2, lines 48-63; col. 7, line 61 to col. 8, line 7; and col. 9, line 22 to col. 10, line 37); selecting events within the processor to gather data on (see col. 2, lines 48-63; col. 6, lines 9-34; and col. 14, lines 1-3); and sending the selected events as a message request to the RTOS (Abstract, lines 9-12; col. 2, lines 10-16; and col. 4, lines 11-27).

As to claim 2, Neufeld et al. also disclose translating the message request into parameters based on a set of private group parameters that are accessible by the real time operating system; sending the message request as a translated request to the performance monitoring unit ; returning the pieces of data requested by the translated request to the performance monitoring

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driver; and sending the pieces of data to a location specified in the message request (see col. 5, lines 5-49; col. 6, line 9 to col. 7, line 35; and col. 7, line 61 to col. 8, line 67).

As to claim 3, Neufeld et al. also disclose initiating a performance monitor application that generates a selection screen at a visual monitor coupled to the processor through a host processor in which selecting events within the processor on which to gather data includes selecting the events at the selection screen (see col. 7, lines 36-45).

As to claim 4, Neufeld et al. disclose selecting events within the processor on which to gather data includes selecting one of events arranged in connection with the selection screen (see col. 2, lines 48-63; col. 6, lines 9-34; col. 7, lines 36-45; and col. 14, lines 1-3).

Neufeld et al. do not disclose expressly ninety eight events, but it is considered inherent, because such number is known to be a alternative choice that can be decided in advance by the user or operator.

As to claim 11, Neufeld et al. also disclose sending the pieces of data at a time period specified in the message request (see col. 8, lines 39-67).

As to claim 16, Neufeld et al. disclose a system including a computer readable storage medium (RAM 620 and Rom 622 shown on Fig. 6) containing instructions which, when executed, causes a processor (microprocessor 616 shown on Fig. 6) to: register a performance monitoring driver (driver A 308 and drive B 318 shown on Fig. 3) as a private driver with a real time operating system (RTOS) of the processor in which the performance monitoring driver is coupled to a performance monitoring unit (PMU) (performance monitor (#1) 310 and performance monitor (#2) 320 shown on Fig. 3) (see Fig. 3; col. 2, lines 48-63; col. 7, line 61 to col. 8, line 7; and col. 9, line 22 to col. 10, line 37); select events within the processor on which

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to gather data on (see col. 2, lines 48-63; col. 6, lines 9-34; and col. 14, lines 1-3); send the selected events as a message request to the RTOS (Abstract, lines 9-12; col. 2, lines 10-16; and col. 4, lines 11-27); and translate the message request into parameters based on a set of private group parameters that are accessible by the real time operating system (see col. 5, lines 5-49; col. 6, line 9 to col. 7, line 35; and col. 7, line 61 to col. 8, line 67).

As to claim 17, Neufeld et al. also disclose causing the processor to: send the message request as a translated request to the performance monitoring unit; return the pieces of data requested by the translated request to the performance monitoring driver; and send the pieces of data to a location specified in the message request (see col. 5, lines 5-49; col. 6, line 9 to col. 7, line 35; and col. 7, line 61 to col. 8, line 67) in which the set of private group parameters includes control parameters for hardware-based performance monitoring resources (see col. 5, lines 35-38).

As to claim 19, Neufeld et al. also disclose a storage medium (RAM 620 and ROM 622 shown on Fig. 6) containing instructions which, when executed, cause a processor (microprocessor 616 shown on Fig. 6) to: register a performance monitoring driver (driver A 308 and drive B 318 shown on Fig. 3) as a private driver with a real time operating system (RTOS) of the processor in which the performance monitoring driver is coupled to a performance monitoring unit (PMU) (performance monitor (#1) 310 and performance monitor (#2) 320 shown on Fig. 3) (see Fig. 3; col. 2, lines 48-63; col. 7, line 61 to col. 8, line 7; and col. 9, line 22 to col. 10, line 37); select events within the processor on which to gather data (see col. 2, lines 48-63; col. 6, lines 9-34; and col. 14, lines 1-3); send the selected events as a message request to the RTOS; send the message request into parameters based on a set of private group parameters that

are accessible by the real time operating system (see col. 5, lines 5-49; col. 6, line 9 to col. 7, line 35; and col. 7, line 61 to col. 8, line 67); send the message request as a translated request to the performance monitoring unit (Abstract, lines 9-12; col. 2, lines 10-16; and col. 4, lines 11-27); return the pieces of data requested by the translated request to the performance monitoring driver; and send the pieces of data to a location specified in the message request (see col. 5, lines 5-49; col. 6, line 9 to col. 7, line 35; and col. 7, line 61 to col. 8, line 67).

As to claims 7, 8, and 20, Neufeld et al. also disclose the set of private group parameters including control parameters for hardware-based performance monitoring resources (see col. 5, lines 35-38).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9, 10, 15, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neufeld et al. in view of U. S. Patent No. 6,052,694 to Bromberg.

As noted above, with respect to claims 9, 10, 18, and 21, Neufeld et al. disclose the claimed invention, expect for generating performance monitoring storage tables within memory of the processor.

Bromberg teach generating performance monitoring storage tables within memory of the processor (see col. 4, lines 14-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Neufeld et al.'s method to include generating performance monitoring storage tables within memory of the processor, as taught by Bromberg, in order to provide an advantage of facilitating convenient export of all or a subset of the performance values into analysis tool for analysis (Bromberg col. 6, lines 4-5).

As to claim 15, Neufeld et al. do not disclose generating a message in the interpreting device that causes a fan internal to the host system to turn on in response to the pieces of data returned from the performance monitoring unit.

The Examiner takes Official Notice that generating a message in the interpreting device that causes a fan internal to the host system to turn on in response to the pieces of data returned from the performance monitoring unit, is well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Neufeld et al.'s method to include generating a message in the interpreting device that causes a fan internal to the host system to turn on in response to the pieces of data returned from the performance monitoring unit, in order to cool down the heat produced in the computer system.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Isonuma et al. disclose a processing apparatus for measuring accumulated values of performance monitoring (PM) parameters concerning a reception signal received by a

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transmission device, which is capable of detecting upper layer failures in a more accurate, hardware-based way, without increasing the workload imposed on the system's firmware.

Alferness discloses a data processing system and method of monitoring the performance of a data processing system in processing data requests, where the data processing system processes data requests within a multilevel memory hierarchy.

Klassen et al. disclose an apparatus and method for monitoring the performance of a microprocessor.

Berc et al. disclose a processor including an execution pipeline and a retire unit coupled to an end of the execution pipeline.

Ranganathan disclose a thread switch handler being provided which monitors performance characteristics of a processor executing instructions from two or more threads of an application.

Peri discloses a method of analyzing performance of a program executing in a computer system.

Levine et al. disclose a performance monitor including a threshold indicator, a granularity indicator, an event detector, and an event counter.

Celi, Jr. et al. disclose a support architecture that facilitates use of display device drivers containing a minimum of hardware-specific software code.

Cox et al. disclose a method for dynamically scaling consumption of processor cycles by a task executing in a computer system in which a performance task determines an error measure that indicates real-time errors logged by at least one driver executing in computer system.

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Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. Tsai whose telephone number is (703) 305-0851. The examiner can normally be reached on Monday-Friday from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703) 308-1677. The fax number for TC 2800 is (703) 305-7382. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (703) 308-1782.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 308-7382. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. Tsai

11/08/01


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